

### **REMARKS**

In the Office Action mailed on October 2, 2007, claims 1-50 were rejected. Applicants request reconsideration in view of the following remarks.

Claims 1-50 were rejected under 35 USC 102(e) as being anticipated by U.S. Patent Pub. No. 2004/0267397 (the Doddi reference). The following remarks are directed to Examiner's response to Applicants' arguments.

#### **I. Doddi Discloses Re-training a Machine Learning System**

Independent claims 1 and 22 recite modifying the optimized profile model. Independent claim 37 recites that the optimized profile model is modified.

Paragraph [0057] of the Doddi reference was relied upon to reject these claims. Applicants asserted that paragraph [0057] discloses re-training of the machine learning system rather than modifying an optimized profile model.

The present Examiner replied by stating that "Applicant had not defined optimization" and "a training process to achieve an end result of the training is indeed an optimization process."

Applicants note that Applicants' earlier argument was that the Doddi reference failed to disclose **modifying the optimized profile model**. Thus, even if a training process is viewed to be the same as an optimization process, this does not disclose the specific claim limitation of modifying the optimized profile model. As discussed in more detail below, the training process described in paragraph [0057] includes re-training the machine learning system but does not disclose modifying the optimized profile model as part of the training process.

#### **II. Paragraph [0057] of Doddi Does Not Disclose Modifying or Adjusting a Profile**

In responding to the earlier rejection of claims 1, 22, and 37, Applicants asserted that paragraph [0057] of the Doddi reference did not disclose modifying or adjusting a profile.

The present Examiner replied by stating that “Applicant has not defined profile”, “diffraction signal corresponds with profile”, and “output is adjusted based on the diffraction signal comparison would appropriately adjust the corresponding profile.”

With respect to the Examiner’s first point (Applicant has not defined profile), there is no explicit requirement for Applicants to define each and every claim term. Instead, claims are interpreted in light of the specification in giving them their “broadest reasonable interpretation.” (MPEP 2111.01.) In the present case, profile models are described throughout the specification and depicted in various figures. For example, paragraph [0021] and corresponding figures 2A-2E of the present application describe and depict various profile models that are characterized using profile parameters, such as height and width.

With respect to the Examiner’s second and third points (diffraction signal corresponds with profile and that output is adjusted based on the diffraction signal comparison would appropriately adjust the corresponding profile), paragraph [0057] of the Doddi reference discloses that the diffraction signals are compared to determine if the machine learning system needs to be re-trained. Thus, paragraph [0057] does not explicitly disclose modifying or adjusting the profile.

Applicants note that the standard for inherency is that an inherent characteristic must **necessarily flow** from the teachings of the prior art. (MPEP § 2112 (IV).) Applicants assert that it does not necessarily flow from the disclosure of diffraction signals being compared that a profile is necessarily modified or adjusted. Instead, as disclosed in paragraph [0057], if the comparison of the diffraction signals is not within a desired or predetermined margin, the machine learning system is re-trained. This disclosed process does not require the profile to be modified or adjusted.

Thus, Applicants assert that claims 1, 22, and 37 are allowable because the Doddi reference does not disclose explicitly or inherently disclose each and every claim limitation. Applicants also assert that claims 2-21, 23-36, and 38-50 are allowable for at least the reason that they depend from allowable independent claims.

**III. Conclusion**

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 509982005900. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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